SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>PAL 65</td>
</tr>
<tr>
<td>Product code</td>
<td>PAL 65</td>
</tr>
<tr>
<td>Type of product</td>
<td>Alloy</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category: Professional use

Industrial/Professional use spec: For professional use only

Use of the substance/mixture: Brazing

Function or use category: Welding, cutting, heating and brazing.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

The Prince & Izant Companies
12999 Plaza Drive
44130 Cleveland, Ohio - USA
T 001-216-362-7000 - F 001-216-362-7456
support@princeizant.com - www.princeizant.com

1.4. Emergency telephone number

Emergency number: Global: +44 1865 407333 (NCEC)
                  USA: +1 202 464 2554 (NCEC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

| Sensitisation — Respiratory, Category 1 | H334 |
| Sensitisation — Skin, Category 1       | H317 |
| Hazardous to the aquatic environment — Chronic Hazard, Category 4 | H413 |

Full text of H statements: see section 16

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP): GHS08

Signal word (CLP): Danger

Hazardous ingredients: cobalt

Hazard statements (CLP): H317 - May cause an allergic skin reaction
                         H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
                         H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (CLP): P261 - Avoid breathing dust, fume
                                 P272 - Contaminated work clothing should not be allowed out of the workplace
                                 P273 - Avoid release to the environment
                                 P280 - Wear protective gloves, eye protection, face protection, protective clothing
                                 P284 - In case of inadequate ventilation wear respiratory protection
                                 P302+P352 - IF ON SKIN: Wash with plenty of soap and water

Child-resistant fastening: No

Tactile warning: No
2.3. Other hazards

Adverse physicochemical, human health and environmental effects: May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause long lasting harmful effects to aquatic life.

Other hazards not contributing to the classification: None under normal conditions.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobalt</td>
<td>(CAS No) 7440-48-4</td>
<td>20 - 40</td>
<td>Resp. Sens. 1, H334, Skin Sens. 1, H317, Aquatic Chronic 4, H413</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a doctor.
First-aid measures after skin contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact: Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion: Rinse mouth. Do not induce vomiting. If large quantities are ingested, seek medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact: May cause an allergic skin reaction.
Symptoms/injuries after eye contact: Dust from this product may cause eye irritation.
Symptoms/injuries after ingestion: May cause irritation to the respiratory tract and to other mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Dry powder. Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard: The product is not flammable.
Explosion hazard: Product is not explosive.
Reactivity in case of fire: Not known.
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire: No special measures required.
Firefighting instructions: Use extinguishing media appropriate for surrounding fire.
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Avoid release to the environment.
6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection.
Emergency procedures : Ventilate spillage area. Avoid dust formation. Avoid contact with skin and eyes. Avoid breathing dust, fume.

Measures in case of dust release : Where excessive dust may result, use approved respiratory protection equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Wear suitable protective clothing, gloves and eye or face protection. For further information refer to section 8: “Exposure controls/personal protection”. Avoid breathing Dust, Fumes. Avoid contact with skin and eyes.
Emergency procedures : Ventilate area. Avoid dust formation.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).
Other information : This material and its container must be disposed of as hazardous waste.

6.4. Reference to other sections

For further information refer to section 8: “Exposure controls/personal protection”. For disposal of solid materials or residues refer to section 13: “Disposal considerations”.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid dust formation. Wear personal protective equipment. Avoid breathing dust, fume. Avoid contact with skin and eyes.

Hygiene measures : Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ensure adequate ventilation, especially in confined areas.
Storage conditions : Store in a well-ventilated place. Keep cool.
Incompatible materials : Acetylene, ammonia, ammonium nitrate, aqua regia, dioxane, ethylene oxide, chlorine trifluoride, halogens, hydrogen peroxide, hydrazine, hydrazine, mononitrate, hydrazoic acid, hydroxylamine, hydrogen sulfide, performic acid, phosphorus, selenium, sulfur, titanium plus potassium chlorate. Bromates, chlorates and iodates of alkali and alkali earth metals.

Storage area : Store in a well-ventilated place.
Packaging materials : Keep only in original container.

7.3. Specific end use(s)

Other hot work operations with metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Materials for protective clothing : Wear suitable protective clothing
Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : Combined gas/dust mask with filter type P1
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Data or Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Silver-gray alloy. Metallic wire, rod, strip.</td>
</tr>
<tr>
<td>Colour</td>
<td>Silver</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>insoluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product is not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Oxidising solids Not applicable.</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Acetylene, ammonia, ammonium nitrate, aqua regia, dioxane, ethylene oxide, chlorine trifluoride, halogens, hydrogen peroxide, hydrazine, hydrazine, mononitrate, hydrazoic acid, hydroxylamine, hydrogen sulfide, performic acid, phosphorus, selenium, sulfur, titanium plus potassium chloride. Bromates, chlorates and iodates of alkali and alkali earth metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
</tbody>
</table>

Contact dermatitis may result from direct exposure to the skin.
**Respiratory or skin sensitisation**: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Long-term exposure to brazing fume, gasses, or dust may contribute to pulmonary irritation or pneumoconiosis.

- **Germ cell mutagenicity**: Not classified (Based on available data, the classification criteria are not met)
- **Carcinogenicity**: Not classified (Based on available data, the classification criteria are not met)
- **Reproductive toxicity**: Not classified (Based on available data, the classification criteria are not met)
- **Specific target organ toxicity (single exposure)**: Not classified (Based on available data, the classification criteria are not met)
- **Specific target organ toxicity (repeated exposure)**: Not classified (Based on available data, the classification criteria are not met)
- **Aspiration hazard**: Not classified (Based on available data, the classification criteria are not met)

### SECTION 12: Ecological information

**12.1. Toxicity**
- **Ecology - general**: May cause long lasting harmful effects to aquatic life.
- **Ecology - water**: May cause long lasting harmful effects to aquatic life.

**12.2. Persistence and degradability**

**PAL 65**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>The product is not biodegradable.</th>
</tr>
</thead>
</table>

**12.3. Bioaccumulative potential**

**PAL 65**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Not established.</th>
</tr>
</thead>
</table>

**12.4. Mobility in soil**

**PAL 65**

<table>
<thead>
<tr>
<th>Ecology - soil</th>
<th>Not established.</th>
</tr>
</thead>
</table>

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Other adverse effects**

- **Other adverse effects**: None known.
- **Additional information**: Avoid release to the environment

### SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

- **Regional legislation (waste)**: Disposal must be done according to official regulations.
- **Waste treatment methods**: Dispose of contents/container in accordance with licensed collector’s sorting instructions.
- **Waste disposal recommendations**: Dispose of contents/container to a hazardous or special waste collection point.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

**14.1. UN number**

Not regulated for transport

**14.2. UN proper shipping name**

- **Proper Shipping Name (ADR)**: Not applicable
- **Proper Shipping Name (IMDG)**: Not applicable
- **Proper Shipping Name (IATA)**: Not applicable
- **Proper Shipping Name (ADN)**: Not applicable
- **Proper Shipping Name (RID)**: Not applicable

**14.3. Transport hazard class(es)**

**ADR**

- **Transport hazard class(es) (ADR)**: Not applicable

**IMDG**

- **Transport hazard class(es) (IMDG)**: Not applicable
IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group
Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
- Overland transport
No data available

- Transport by sea
No data available

- Air transport
No data available

- Inland waterway transport
No data available

- Rail transport
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information
Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic 4</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 4</td>
</tr>
<tr>
<td>Resp. Sens. 1</td>
<td>Sensitisation — Respiratory, Category 1</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Sensitisation — Skin, Category 1</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>H413</td>
<td>May cause long lasting harmful effects to aquatic life</td>
</tr>
</tbody>
</table>
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.